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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/566,887	Applicant(s) PETCAVICH, ROBERT J.
	Examiner JYOTI CHAWLA	Art Unit 1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.
 - 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-11 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08e)
 Paper No(s)/Mail Date 2/1/2006.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION***Specification***

The disclosure is objected to because of the following informalities:

Specification Page 5, line 16, states "0.05% to %% antimicrobials", the range needs to be defined properly.

Specification Page 5, line 23, states "delay n the time", which should be "delay in the time".

Specification Page 5, line 34, states "preservation it either", it should be replaced by "in".

Specification Page 5, line 28, uses an unacceptable abbreviation for the name of state of Michigan as "Mich" which needs to be corrected to "Michigan".

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 4 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 4 recites "A process as set forth in claim 1 wherein the coating composition includes from about **0.05 to about 0.1%** by weight antimicrobials".

Claim 9 recites "A coating composition as set forth in claim 7 including from about **0.05 to 2 5%** by weight antimicrobials."

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The original disclosure of the application states that " Optionally, the coating composition may also include one or more of the following: from about **0.05%** to **%% antimicrobials**" (page 5, lines 15-16). Thus the range of antimicrobial agent as recited in claims 4 and 9 is not disclosed in the specification in a way to convey to one of skill in the art at the time of filing of the application that the applicant had possession of the claimed invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "fresh" in claims 1 and 7, is a relative term which renders the claim indefinite. The term "fresh" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The term "fresh" may mean different things to different people, e.g., one may consider just plucked fruit as fresh while others may consider a day old or a week old fruit or vegetable as fresh. The term fresh is also used for contrasting produce with canned, cooked or frozen. Clarification and/or correction is required.

The term "an exterior surface" as recited in claim 1, is indefinite as it is unclear as to what surface would qualify as "an exterior surface", e.g., would the end of the stem by which a fruit is attached to the plant qualify as "an exterior surface" or whether the entire external surface the fruit or vegetable would be considered "an external surface". The term "an external surface" for the application of the preservative composition is unclear for the purposes of prior art comparison.

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Claim 3 is indefinite for the recitation of "A process set forth in claim 1 wherein the surfactant is Triton-X45, Tergitol, and polysorbate or dioctyl sodium sulfosuccinate." Claims 3 makes use of indefinite language. It is unclear whether the surfactant is one of the four, or is it Triton-X45 or a combination of Tergitol and polysorbate or a combination of Tergitol and dioctyl sodium sulfosuccinate or any other combination. Clarification and/ or correction is required.

Claim 9 is indefinite for the recitation of "about 0.05 to 2 5% by weight antimicrobials". The claim as recited indicates a range of antimicrobials, however, it is not clear as to what is the upper limit of the range. Is it 2% or 5% or 2.5% or 25% or some other percentage. Regarding the original disclosure, Page 5, line 16 of the specification is also unclear as it states "0.05% to %% antimicrobials". Thus it is not clear as to what is the proportion of antimicrobial agents in produce coating composition as disclosed by the applicant. Clarification as well as correction is required.

Claims 3 and 8 contain the trademark/trade name, such as, Tegitol, Tween etc. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe various surfactants and, accordingly, the identification/description is indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Scott et al (US 2872325).

Scott et al., hereinafter Scott, teaches a process of coating perishable foods by an emulsion of polymerized vinylidene chloride, i.e., polyvinylidene chloride (Column 2, lines 20-30), by dispersing in an aqueous phase with 1-5% emulsifier (surfactant) and an additional surface-active agent (Column 3, lines 36-58). Scott also teaches solids content of 10-25% (Column 3, lines 2-5), and polyvinylidene chloride content of 88-91% of the total polymer (Column 2, line 25). Therefore Scott teaches polyvinylidene chloride content of 8.8 to 22.75% of the coating composition, which falls in applicant's recited range for claim 1.

Regarding claim 2, Scott teaches Polyvinylidene chloride copolymer consists of 88-91% polyvinylidene chloride and 9-12% acrylonitrile (acrylic acid) as recited by the applicant (Column 2, lines 20-27).

Claim 7 recites a coating composition for the preservation of produce and has the same limitations as recited in claim 1. Therefore, claim 7 is rejected over Scott for the same reasons as discussed regarding the rejection of claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Determining the scope and contents of the prior art.

Ascertaining the differences between the prior art and the claims at issue.

Resolving the level of ordinary skill in the pertinent art.

Considering objective evidence present in the application indicating obviousness or nonobviousness.

(A) Claims 3, 4, 6, 8, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scott as applied above, in view of Yang et al (US 6165529).
Claims 1-2 and 7 are rejected by Scott above.

Regarding claim 3, Scott teaches a coating composition for produce containing polyvinylidene chloride polymer and surfactant as discussed above. However Scott does not teach the specific emulsifiers /surfactants recited by the applicant. Yang et al, hereinafter Yang, teaches a composition and method for coating fresh produce. The coating composition taught by Yang contains 0.03-5% diethyl sodium sulfosuccinate (Column 3, lines 29-30) as surfactant, as recited by the applicant. A surfactant is needed to stabilize an emulsion and Diethyl Sodium Sulfosuccinate (DSS) is an anionic surfactant, which is soluble in organic solvents as well as in water. DSS has detergent properties that make it useful for cleaning and peeling fruits and vegetables and cleaning food packaging and in various pharmaceutical products. Thus surfactants, such as, Diethyl Sodium Sulfosuccinate or DSS were known to be added to coating compositions at the

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time of the invention. Therefore, it would have been obvious to one with ordinary skill in the art to modify the process taught by Scott and add Diethyl Sodium Sulfosuccinate (DSS) as surfactant (as taught by Yang) to the coating composition, in order to make the coating composition more stable and more suitable for perishable food items especially the ones with thin or no peelable coverings. The coating composition thus produced would contain an effective, non-toxic and widely tested surfactant.

Regarding claim 4, Scott teaches a coating composition for produce with antimicrobial agents (Column 3, lines 12-13) but he does not teach the actual amount of these agents in the coating composition. Since Scott does not disclose a specific range for antimicrobial agent, one of ordinary skill in the art would have been motivated to look to the art to find a similar product with antimicrobial agent. Yang teaches a coating composition for post harvest produce and composition taught by Yang contains 0.05-5% antimicrobial agents, such as triclosan or methylparaben (Column 3, lines 31-33), which encompasses the range taught by applicant in claim 4. Thus coating compositions with antimicrobials in the recited range of the applicant were known at the time of the invention. The amount of antimicrobial agent in the coating composition will help to determine the strength or suitability of coating composition under different conditions, which in turn will affect the coating process. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to modify coating composition taught by Scott and include the amount of antimicrobial agent taught by Yang in order to make a coating composition to protect the produce with an effective amount of antimicrobial agent. One would have been further motivated to modify the amount of antimicrobial as taught by Yang, in order to make coating compositions that are specifically suited to the type of produce, length of storage (transportation/ ripening) and the storage conditions (humidity, temperature etc.) for which the coating composition would be effective.

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Regarding claim 6, Scott is silent as to the addition of antifoam in the coating composition for produce. Unwanted foaming was a known problem in making emulsions and it could be solved by the addition of antifoaming agents. Yang teaches addition of an antifoaming agent, such as polydimethylsiloxane, to the coating composition in a range 0.001 to 0.005% (Column 3, lines 34-36), which falls within the recited range of the applicant. One of ordinary skill in the art would have been motivated to modify Scott based on the teachings from Yang, and employ an antifoaming agent in the coating emulsion in order to avoid unwanted foaming during the making and application of the coating composition. One would have been further motivated to use an antifoaming agent based on silicone, such as polydimethylsiloxane, because silicone based chemical antifoams are quick acting due to lower surface tension, they are non-reactive to other process media and can be added to most compositions, and also remain effective for longer time.

Claim 8 recites a coating composition for the preservation of produce wherein the surfactant comprises Triton-X45, or Tergitol or Tween or Dioctyl sodium succinate. Thus the claim as recited has the same limitations as recited in claim 3. Therefore, claim 8 is rejected over Scott in view of Yang for the same reasons as discussed regarding the rejection of claim 3.

Claim 9 recites a coating composition for the preservation of produce with an antimicrobial agent in the range of "0.05 to 2 5%" (Also see rejection under 112). Thus the claim as recited has the same limitations as recited in claim 4. Therefore, claim 9 is rejected over Scott in view of Yang for the same reasons as discussed regarding the rejection of claim 4.

Claim 11 recites a coating composition for the preservation of produce with Polydimethylsiloxane, an antifoaming agent in the range of 0.005 to 0.1%. Thus the claim as recited has the same limitations as recited in claim 6. Therefore,

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claim 11 is rejected over Scott in view of Yang for the same reasons as discussed regarding the rejection of claim 6.

(B) Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scott as applied above, in view of Bice et al (US 3674510). Claims 1-2 and 7 are rejected by Scott above.

Regarding claim 5, Scott teaches a coating composition for produce with antifungal agents (Column 3, lines 12-13). Scott, however, does not teach the actual amount of these agents in the coating composition. Bice et al, hereinafter Bice, teaches a coating composition for produce containing an antifungal agent (Abstract and Column 3, lines 48-55). Bice teaches that 0.4-2 parts per million, i.e., 400-2000 parts per billion of an antifungal compound 2-(4-thiazolyl) benzimidazole (hereinafter TBZ), based on the weight of fruit, would be appropriate for fruit stored for about three weeks at a temperature of 45-50 °F or for one week at 65-75 °F (Abstract, Column 3, lines 73-75 and Column 4, lines 40-45). Thus coating compositions comprising antifungal agents in the recited range of the applicant were known in the art at the time of the invention. Therefore, one of ordinary skill in the art at the time of the invention would have been motivated to modify Scott and specifically add the antifungal agent in the amount as taught by Bice, in order to make and use a coating composition with effective amount of antifungal agent to protect the produce. One would have been also motivated to modify the amount of antifungal agent in the coating composition to suit the particular situation, i.e., desired storage time, temperatures, and other available storage/ transportation conditions. One would have been further motivated to use the lowest range effective at the desired storage and transportation conditions in order to reduce cost of material and also minimize excessive use of chemicals.

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Claim 10 recites a coating composition for the preservation of produce with an antifungal agent in the range of 25-1000 parts per billion. Thus the claim as recited has similar limitations as recited in claim 5 (50-1000 ppb). Therefore, claim 10 is rejected over Scott in view of Bice for the same reasons as discussed regarding the rejection of claim 5.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

- I) Claim 1-6 of the application 10/566,887 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1,2, 4-6 and 12 of copending Application No.10/633, 207. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the applications are claiming the process of coating post harvest produce with a coating composition comprising an aqueous emulsion of

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0.25 to 25% by weight of polyvinylidene chloride copolymer, about 0.0005 to 10% by weight of surfactant, 0.05 to 0.1% antimicrobial, 50-1000 ppb of fungicide and 0.005 to 0.1% polydimethylsiloxane.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Remarks/Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Lambert et al (EP 0755990 A2) teach a coating composition for fruits comprising about an aqueous emulsion that can be used as an adhesive or coating (Page 3, line 52 and page 4, line) of from about 5-95% by weight of polyvinylidene chloride and its copolymers (Page 2, lines 38-40 and page 3 specially lines 18-35), and from about 0.1-5% by weight surfactant (Page 3, lines 51-56). Lambert also teaches polyvinylidene copolymers with vinyl chloride and acrylic polymers as recited by the applicant as well as addition of Hydrogen Peroxide and ammonia, i.e., antimicrobial, antifungal, to the polymer coating (Page 4, example 1). (See also Lambert pages 4-6 for example I).

Liu (US 4710388) teaches coating composition for fruit with surfactants.

C.F.De Long et al (US 3669691) teach coating fresh produce.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JYOTI CHAWLA whose telephone number is (571)272-8212. The examiner can normally be reached on 9:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KEITH D. HENDRICKS/
Supervisory Patent Examiner, Art Unit 1761

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